CONDITION

Intrauterine growth restriction

Intrauterine growth restriction is when a fetus does not grow as expected during pregnancy.

WHAT IT IS
Restricted fetal growth during pregnancy

BODY SYSTEM
Pregnancy and placental circulation

MAIN SYMPTOMS
Often none, slow bump growth, reduced fetal movement

WHAT CAUSES IT
Placental problems, maternal illness, fetal conditions, or infection

HOW IT IS DIAGNOSED
Ultrasound growth measurements and placental blood-flow Doppler

MAIN TREATMENT
Close monitoring, managing causes, and carefully timed delivery

CAN IT BE CURED?
No - no treatment reliably restores growth

IS IT AN EMERGENCY?
Sometimes - reduced fetal movement needs immediate assessment

LONG-TERM OUTLOOK
Most babies do well; severe early restriction carries greater risk

Overview

Intrauterine growth restriction, or IUGR, means that a fetus is not growing as expected in the uterus. Healthcare professionals increasingly use the term fetal growth restriction , or FGR.

FGR often happens because the placenta is not delivering enough oxygen and nutrients to support expected growth. The placenta is the organ that connects the fetus to the pregnant person's blood supply.

A fetus with FGR is usually smaller than expected for the stage of pregnancy. However, being small does not always mean growth is restricted. Some fetuses are naturally small because of family traits and remain healthy. These are often described as small for gestational age , or SGA.

FGR matters because restricted growth can increase the chance of pregnancy complications. These include premature birth, problems coping with labour and, in severe cases, stillbirth. Careful monitoring helps the maternity team judge whether it is safer for the pregnancy to continue or for the baby to be born.

Symptoms

FGR usually does not cause noticeable symptoms. You may feel well and have no indication that growth has slowed.

A midwife or doctor may notice that the uterus measures smaller than expected. This is checked by measuring from the pubic bone to the top of the uterus. Known as the fundal height , this measurement is a screening tool rather than a diagnosis.

The size or shape of your bump cannot confirm FGR. It can be affected by your height, body shape, muscle tone, the fetus's position and the amount of amniotic fluid.

Reduced or changed fetal movement can sometimes be a sign that a fetus needs assessment. Do not wait for your next appointment if movements become weaker, stop or change from their usual pattern.

Causes and risk factors

FGR can have several causes. In some pregnancies, no definite cause is found.

A common cause is placental insufficiency , meaning that the placenta is not working well enough to support expected growth. This may be associated with pre-eclampsia, a pregnancy condition involving high blood pressure and signs that organs such as the kidneys or liver are affected.

Other possible causes and risk factors include:

A risk factor does not mean FGR will occur. It may instead lead to additional growth scans or closer blood-pressure monitoring.

FGR is not usually caused by ordinary activity, working, mild stress or something you ate on a particular day.

- Long-term high blood pressure, kidney disease, diabetes with blood-vessel damage, or autoimmune disease
- Smoking, cocaine use, poor nutrition, or severe anaemia

- Problems with the placenta or umbilical cord
- Some fetal chromosome, genetic, or structural conditions
- Certain infections acquired during pregnancy
- A multiple pregnancy, particularly when twins share a placenta
- FGR, pre-eclampsia, or stillbirth in an earlier pregnancy

Diagnosis

Fundal-height measurements may suggest that an ultrasound scan is needed. People with known risk factors may have planned growth scans even when fundal height appears normal.

During an ultrasound, a trained professional measures parts of the fetus, usually including the head, abdomen and thigh bone. These measurements are used to estimate fetal weight and compare it with the expected range for that stage of pregnancy.

FGR may be suspected when the estimated weight or abdominal measurement is below the 10th percentile. This means it is smaller than about 90 out of 100 fetuses at the same stage. A measurement below the third percentile suggests more severe smallness. Definitions differ slightly between clinical guidelines, and a percentile alone does not show whether a fetus is unwell.

Ultrasound estimates are not exact. Repeat scans over time can show whether growth is continuing and how quickly it is happening. Scans are normally spaced far enough apart to make a meaningful comparison.

A Doppler ultrasound measures blood flow. Blood flow through the umbilical artery gives information about resistance within the placenta. Other fetal blood vessels may also be assessed in some circumstances.

Additional assessment can include:

Not every small fetus needs every test. The investigations offered depend on when slow growth began, the ultrasound findings and whether other concerns are present.

- The amount of amniotic fluid surrounding the fetus
- Fetal heart-rate monitoring, sometimes called cardiotocography or a non-stress test
- Blood-pressure and urine checks for pre-eclampsia
- A detailed anatomy scan
- Selected tests for infection, chromosome changes, or genetic conditions

Treatment and management

There is no treatment that reliably makes a growth-restricted fetus regain all expected growth. Management focuses on watching for signs that the fetus is no longer safest in the uterus and choosing an appropriate time for birth.

Monitoring may include regular growth scans, Doppler studies, amniotic-fluid measurements and fetal heart-rate checks. You may also be asked to pay close attention to your baby's usual pattern of movement.

Any related maternal condition, such as high blood pressure or diabetes, will be managed. Support is available to stop smoking or substance use. Bed rest, dietary supplements and simply eating more have not been shown to correct placental insufficiency.

The timing of delivery is based on several factors, including:

If early delivery is likely, medicines may be offered to help prepare a premature baby's lungs. Another medicine may sometimes be offered to help protect the baby's brain when very early birth is expected.

FGR does not automatically mean that you need a caesarean birth. Induction and vaginal birth may be possible when monitoring is reassuring. A caesarean may be recommended if the fetus is unlikely to cope well with labour or if another complication makes it safer.

After birth, the baby may need extra help with feeding, temperature control or blood-sugar monitoring. Babies born very early or very small may need neonatal-unit care.

- How restricted growth is
- Whether growth continues between scans
- Umbilical and fetal blood-flow findings
- Amniotic-fluid levels and heart-rate monitoring
- The presence of pre-eclampsia or other complications
- How many weeks pregnant you are

Complications

The chance of complications is higher when FGR begins early, is severe, or is linked to abnormal placental blood flow.

During pregnancy, possible complications include low amniotic fluid, pre-eclampsia, premature delivery and stillbirth. The absolute risk for an individual pregnancy cannot be judged from size

alone.

During labour, a growth-restricted fetus may have less reserve for coping with contractions. Continuous heart-rate monitoring may therefore be recommended.

After birth, possible short-term problems include:

Some children remain small, while others show catch-up growth during infancy or childhood. Severe or early FGR can increase the chance of developmental, learning, heart and metabolic problems later in life. These are increased risks across groups of children, not a prediction of what will happen to one child.

- Low blood sugar or difficulty maintaining body temperature
- Feeding difficulties and slow weight gain
- Breathing problems, particularly after premature birth
- An unusually high number of red blood cells
- A need for neonatal care

Prevention

FGR cannot always be prevented. Placental, genetic and fetal causes may develop despite appropriate care.

Before or during pregnancy, controlling long-term medical conditions and avoiding smoking and recreational drugs may reduce some risks. Attending prenatal appointments allows blood pressure, fetal growth and other warning signs to be checked.

Low-dose aspirin can reduce the risk of pre-eclampsia in some people who have specific risk factors. It is not a treatment for established FGR and is not suitable for everyone. It should only be taken in pregnancy when recommended by a qualified maternity professional.

If you previously had FGR, pre-eclampsia or a stillbirth, early discussion in a later pregnancy can help plan extra surveillance. This cannot guarantee that FGR will not return.

Living with it and what to expect

A diagnosis of FGR can mean more appointments and uncertainty about when the baby will be born. The monitoring schedule may change if growth, blood flow or maternal health changes.

Some pregnancies remain stable for weeks with close surveillance. In others, concerning results lead to earlier delivery. Your maternity team should explain what each test is checking

and which findings would change the plan.

Many growth-restricted babies are born without major complications, especially when FGR is mild and develops later in pregnancy. Babies affected early or severely are more likely to be premature and need neonatal care.

After discharge, growth is usually followed through routine child health appointments. Some babies catch up in weight and length, while others remain smaller than their peers. Developmental follow-up may be offered after severe FGR, premature birth or neonatal complications.

It is understandable to feel anxious about scans and movement. Ask for clarification if results, percentiles or delivery plans are unclear. Emotional support can also be part of pregnancy and postnatal care.

When to get medical help

Contact your maternity assessment service immediately if:

Do not try to make a baby move by waiting, eating something sweet or using a home heartbeat monitor. A home monitor cannot show whether the baby is well.

Call emergency services for heavy bleeding, a seizure, collapse, severe breathing difficulty or severe constant abdominal pain.

Routine follow-up remains important even when you feel well. Contact your maternity team between appointments if you are unsure about the monitoring plan, have difficulty attending, or have concerns about growth or medication.

- Your baby's movements are reduced, weaker, absent or different from usual
- You have vaginal bleeding, leaking fluid or regular painful contractions
- You develop a severe headache, vision changes, pain below the ribs, or sudden swelling
- You have been advised to attend because of a blood-pressure reading or another test result

Common questions

Is IUGR the same as being small for gestational age?

Not exactly. Small for gestational age describes a fetus or newborn below a certain size percentile. FGR means growth potential is restricted, often because of placental problems. A

naturally small fetus may be healthy, while a fetus above the 10th percentile can sometimes show slowing growth that needs investigation.

Did I cause my baby's growth restriction?

Usually not. FGR is often related to the placenta, a medical condition, or fetal factors outside your control. Smoking and some substance use can raise the risk, but their presence does not prove why FGR developed.

Can eating more make my baby grow?

Eating a balanced diet supports pregnancy health, but extra food does not usually correct FGR caused by placental insufficiency. Severe nutritional deficiency may contribute to poor growth and needs professional assessment. Avoid unproven supplements or restrictive diets.

Will I need a caesarean birth?

Not always. Vaginal birth may be possible if monitoring is reassuring and the fetus is expected to cope with labour. A caesarean may be advised when blood-flow or heart-rate findings are concerning, or when another complication is present.

Will my baby catch up after birth?

Many babies have some catch-up growth, but not all do. The outlook is influenced by the cause of FGR, how early it began, prematurity and any complications. Growth and development can be monitored after birth.

Can IUGR happen again in another pregnancy?

It can recur, particularly when linked to placental disease or an ongoing medical condition. Recurrence is not certain. A future pregnancy may include earlier risk assessment, blood-pressure checks and additional growth scans.

Sources

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